

GAME MANUAL

BATTLEFRONT GAME SYSTEM

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Battlefront

IBM/Tandy, Apple II and C-64/128 Versions

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PART ONE

THE GAME ROUTINES

1. THE BATTLEFRONT GAME SYSTEM

The *Battlefront Game System* is Strategic Studies Group's multi-award winning land combat simulation system. This manual covers all games that use the *Battlefront* system. Computer specific information, scenario details and an introductory tutorial are contained in the Scenario Booklet.

To get started with the game, we recommend that you complete the following steps:

- (i). Read the computer specific information for details on installation and start-up.
- (ii). Read Chapter Two of this manual for an overview of the game system.
- (iii). Play the introductory tutorial included in the Scenario Booklet.
- (iv). Select any scenario and start playing, referring to this manual as necessary. You should read the Player's Notes for a particular scenario before playing it for the first time as they contain useful background information.

This manual contains two major sections. Part One, *The Game Routines* explains the operation of the game system and contains all that you need to know to play a game. Part Two, *WarPlan™* explains the operations of the scenario design routines, including *WarPaint™*, SSG's icon and terrain editor. While you do not need to read this section to play the game, it will provide some insights into the deeper workings of the game system. In addition, we would encourage everyone to find out just how easy it is to modify scenarios with *WarPlan™*.

2. HOW THE GAME PLAYS

Before asking you to go through the introductory tutorial, which you will find in the scenario booklet, we recommend you read this chapter.

Choose the scenario you wish to play. Experienced players may wish to vary an existing scenario or to create an entirely new one.

Select a normal or enhanced game. Enhanced games give random but powerful benefits to any computer player. Choose a handicap level for the game. Handicap levels act as a multiplier on the points accumulated by either player. Unlike Enhancement, they do not affect the artificial intelligence or the combat performance of the protagonists.

Choose sides; i.e. whether the game will be played between two humans, one human (either as the Axis or Allied player) or no humans. Note the <OBSERVE> mode is a very useful tool for historical analysis and for testing original scenarios. You may also edit the names of the opposing commanders at this stage. The game is now ready to play.

Each scenario lasts for a set number of turns; up to 99. There are four turns to each day (am, noon, pm and nite) so that the maximum length of a scenario is 25 days.

The military forces at your command range from battalion-size units to division-size units, depending on the scenario. These are your basic fighting men. They are organized into larger formations to reflect a proper military hierarchy.

The battlefield on which you fight is a field of hexagons up to 39 across and 28 down. The ground scale varies from scenario to scenario, ranging from 500 metres to 8 kms (0.3 to 5 miles). Different types of terrain are represented by different terrain icons. Roads, rivers, forts and cities are shown. Places of special significance are designated as objective hexes, and victory points are awarded for control of these at different times in the game.

It is your job as Commander to use this time, these forces and these conditions to capture and hold as many of your objectives as you can, to destroy as many of the enemy units as you can get your hands on and, of course, to prevent your opponent from doing this to you.

The player who has scored the most number of points by the end of the game is the winner.

3. THE TYPES OF GAME MENUS

The order menus which drive the game can be divided into four types.

(a) Branch Menus - These menus signpost the route to other menus [2, 4, 8, 9, 13, 14]. Note that most of them also provide some information.

(b) Information Menus - These menus provide specific information on the various forces and functions in the game [5, 6, 7, 15].

(c) Action Menus - These menus are the centre of the game system. All of the orders used in the game are given through them [3, 10, 11, 12, 16, 17, 18, 19].

(d) Single Function Menus - [1].

4. THE GAME MENUS DESCRIBED

Menu H (Game Master)

This screen always appears at the beginning of each turn. It is common to both players. It is the first screen you will see after completing the scenario selection details and selecting <START>.

You are told the turn number, the time of day and date, the atmospheric weather for this turn and the weather forecast.

In a two (human) player game you will be able to select either <AXIS> or <ALLIED>. In a one (human) player game a solid bar will be overprinted across the nationality controlled by the computer. The arrow keys will not access a line overprinted with a solid bar.

<RUN 5> is the key which activates the turn. Do not select it until all players have issued their orders. In daylight turns, the <RUN 5> line will be overprinted with a solid bar until all players have accessed at least Menu 1. In night turns, there is no insurance on the <RUN 5> line since it is usual (and advisable) to let your men get some sleep.

The <DISK> line can be accessed at any time and is the means by which the 'save game' routines are utilized. Please see Menu 3 (Save Game Utility) for full details of these routines.

The <EXIT> line allows IBM users to return to the main menu or DOS.

Menu 1 (Save Game Utility)

Apple II Family and C64. This is a single function menu which allows you to load or save a game or to format a save game disk. Use the arrow keys to locate the <DISK> line on Menu H and type (RET). This brings up the save game utility screen which has three options, <LOAD>, <SAVE> and <FORMAT>.

To save a game, locate <SAVE> with the arrow keys and type (RET). If you have only one disk drive you will be asked to insert the appropriate disk and type (RET). You will then see a list of the games on the disk in the large catalog box at the top of the screen. Use the arrow keys to move the highlighted bar to the location in which you wish to save the game, and type (RET). The menu window now displays the <COMMENT> and <SAVE GAME> lines. Choosing <COMMENT> allows you to edit the boxes containing the name of the game and a three line synopsis, which are in the middle of the screen. When you are ready, locate the <SAVE GAME> line and type (RET).

The game will be saved to the highlighted location with whatever name you have chosen for it. Note that the catalog box displays the turn on which the game was saved. This is done automatically. Hitting the (ESC/f1) key will now return you to the game. One drive users will be prompted for the appropriate disk.

To load a game choose <LOAD>. One drive users will be asked for their scenario or save game disk. Use the arrow keys to move the highlighted bar to the desired game location and type (RET). The chosen game will be loaded. Hitting (ESC/f1) will now return you to the game.

To format a new save game disk choose <FORMAT>. A warning message will appear and you will be asked to insert the disk to be formatted. Hitting (RET) will completely erase any information that was on the disk and provide eight unused save game locations. Please exercise some care in choosing this option.

IBM. This is a single function menu which allows you to load or save a game, change the DOS path to the current disk or directory or load an 'auto saved game' if present.

To save a game, locate the <SAVE GAME> line with the arrow keys and type (RET). A large catalog window displays a list of current save game files. Use an arrow key to move the cursor bar to the location in which you wish to save the game. If that location contains an existing file, then the current game will be saved over that file. Empty slots are marked 'free'. When you have chosen a location, type (RET).

The menu window now displays the <COMMENT> and <SAVE IT> lines. Choosing <COMMENT> allows you to edit both the name of the game and a three line synopsis. When you are ready, locate the <SAVE IT> line and type (RET).

To load a game, choose <LOAD>. Use the arrow keys to move the cursor bar to the desired game location and type (RET). The chosen game will be loaded.

The <PATH> command allows you to change the current disk or directory for loading and/or saving games. The default is the directory from which the game was run. When typing disk identifiers, please type a colon (:) after the drive letter (e.g. B:). The path is limited to 26 characters.

Save game disks must be formatted by DOS before use.

The <LOAD AUTO> command will load an auto saved game if one is present.

Menu 2 (Operations)

This is a branch menu. The information which appears to the left of the menu window displays your nationality, parent unit formation, the commander's name, the number of victory points accumulated by your side to date and whether your force is night capable.

You should decide whether you want to look at the available information before giving your orders.

If you select <REPORTS> you will be given access to four categories of information. Menus 5-7 will give you all the details.

If you select <ORDERS> you will be given access to the decision making (or action) menus of the game. Menus 8-19 will give you all the details.

We recommend that you make use of the <REPORTS> menu every turn and then issue your orders. A list of the things you should keep an eye on is included in the description of each report menu.

If you select <OPTIONS>, IBM users will be given access to five optional features. Menu 3 will give you all the details. Apple II/C-64 users have the <OPTIONS> line replaced with <RESIGN>. The <RESIGN> option is for use when, for whatever reason, you wish to end the game. The game will stop and the end of game screen will be printed. You will be prompted to avoid accidental resignations.

The <ACTIVATE> line appears only during night turns. In most circumstances you will want to rest your men at night. To issue orders you will first have to select <ACTIVATE>, which will then display the <ORDERS> line. This additional step has been included as a precaution against accidentally committing your forces at night.

All men on both sides will normally sleep at night unless specifically given an order. You may carry out all actions up to actually issuing an order without waking them up. Orders issued through Menus 16-18 will activate the junior HQ for the night. This is the only irreversible decision you can make except, of course, selecting <RUN 5>. You should not attack at night unless you have very good reasons. See Chapter 9 (Tactics).

Menu 3 (Options) IBM Only

There are five options available.

The <RESULTS> line will tell you the final score if the scenario were to end at this point. Hit any key to return to the options menu.

The <ADVICE> line will display a couple of paragraphs of handy hints for the scenario. Hit any key to return to the options menu.

The <RESIGN> line operates as explained in the previous section.

The <SOUND> line toggles the sound on/off.

The <AUTO SAVE> line activates the Auto Save feature. When Auto Save is on, the scenario in play will be saved at the end of each turn. Only one file is maintained and it is over-written each turn with the current turn. This file can be loaded using the <LOAD AUTO> line in Start Menu C.

Menu 4 (General Reports)

This is a branch menu that directs you to each of the three report menus. Use the arrow keys to select the required report and then type (RET).

Menu 5 (Unit Status)

This is an information menu. Use the arrow keys to locate a particular friendly senior HQ (usually a division) and type (RET). The map is replaced with a full screen text display of the current state of the chosen senior HQ.

At the top of the screen are the displays for the senior HQ's assets. The remaining units in the formation are grouped under junior HQs. The junior HQ I.D. appears inside a box on the

left of the screen together with its combat state and supply state. Both of these concepts are explained in detail in subsequent menus.

The value of this information is that it will give you a concise summary of the condition of every unit in a senior HQ on a single screen. It complements the information available on the <UNITS> line of Menus 16-18.

Menu 6 (Examine Objectives)

This is an information menu. Use the arrow keys to cycle through each friendly objective. Alternatively, you can type the name of a particular objective which you want to examine. A box will appear in the bottom left of the screen containing the name as you type it. When you have typed enough letters for the computer to distinguish a unique name, the cursor will move to that objective and information on it will be displayed.

The centre section of the display shows a row of icons which illustrates the terrain type, shows who controls the objective and reveals the presence of known forts, cities and minefields. The terrain type is named above the icons while the name of the objective appears below the icons. IBM users will be given the identity of any senior HQ assigned to that objective.

The left section of the display shows which turns the objective is active for, how many VPs are earned for its occupation each turn and at game's end and the number of turns the objective has been held to date.

There is a schematic display of the map in the lower right which indicates the map size and the current location of the cursor in relation to the full map.

Knowing where your objectives are and their relative value to you in victory points will make it much easier for you to deploy your forces. Whenever possible, secure every objective within reach and be prepared to defend them for as long as possible.

Frequent checking of this menu will ensure, for example, that you don't defend a particular objective too long (i.e. past the expiry point for earning VPs). It will also keep you aware of when an objective needs to be secured in time to get the most VPs from it.

Menu 7 (Map Walk)

This is an information menu. You are given control of the cursor which may be moved at will around the map by the use of the 1-6 keys or the I,J,K,M keys. IBM users can use the f1-f10 keys to move from one 13 x 7 section of the map to another; f1 corresponds to the top left sector, f2 to the top centre sector, etc. Friendly objectives are identified as flashing objective icons.

You can (and should) use this menu to get information on enemy units. It is also useful for examining terrain, especially in active portions of the map, and as another source of information on the condition of friendly units.

Position the cursor over an enemy unit. In the lower left of the screen you will be told the type of enemy unit identified (either infantry, armour, artillery or HQ), whether it is contacted or not and, if contacted, an indication of the size of the enemy unit. Type (0) to centre the screen on the cursor. In the lower centre of the screen you will be told the type of terrain occupied by the enemy unit, and shown the icons for terrain, control, city or mine, and forts. If the hex is an objective its name will appear below the icons.

You may also position the cursor over a friendly unit. The information presented on the unit is in exactly the same format as the information available to you when you select Menu 15 (Examine Friendly Units). Please see that section for full details. If you position the cursor over an objective hex unoccupied by any units, you will get the same information on the

objective as you received in Menu 6 (Examine Friendly Objective). Please see that menu for full details.

There is a schematic display of the map in the lower right which indicates the current location of the cursor in relation to the full map.

Typing (RET) brings up a menu in the bottom right of the screen. There are three options which may be toggled on or off. <CONTROL> will define the front line by displaying a line of friendly control markers which define the territory controlled by each player. Note that forts and minefields may take some time to clear. When an enemy fort or minefield has been cleared the fort or mine symbol will disappear.

<ROADS> clears all roads and forts from the map.

<CLEAR MAP> removes all unit icons from the map.

These effects are cumulative. For instance, if <CLEAR MAP> is selected, all unit icons are removed.

Menu 8 (Senior HQ Select)

This is primarily a branch menu for the selection of your senior HQs. To the left of the menu, each senior HQ's current order (if any) is displayed for IBM users; Apple II/C-64 users are told the senior HQ's identity. Use the arrow keys to locate a particular senior HQ and then type (RET) to select it. Note that senior HQs not in the game will be overprinted with a solid bar and not accessible to the arrow keys.

Menu 9 (Senior HQ Order)

This is primarily a branch menu for the selection of senior HQ orders. To the left of the menu, a description of the formation is provided.

You are told the name and type of the formation, the quality of its leadership, administration and supply (poor, fair, good or excell't) and a percentage estimate of total losses suffered to date. IBM users are told the number of units in the formation and how many of them have been KIA'd (killed in action) to date.

Senior HQ leadership is important in combat. It remains fixed throughout the game.

Senior HQ administration is important in junior HQ resupply, obtaining replacements and ease of movement. It remains fixed throughout the game, unlike junior HQ administration which fluctuates with the course of the battle.

Senior HQ supply is the major determinant of junior HQ resupply. It remains fixed throughout the game, unlike junior HQ supply which fluctuates with the course of the battle.

Use the arrow keys to locate a particular line from the menu and then type (RET) to select it. Note that orders which are currently not available for selection will be overprinted with a solid bar and not accessible to the arrow keys.

IBM users have an additional item in the menu. They may select <STATUS> to review the condition of the entire formation. This status display is identical to the one in Menu 5.

Menu 10 (Move Senior HQ)

This is an action menu. The cursor is centred over the senior HQ. Friendly objectives are indicated by flashing target symbols.

Use the 1-6 keys or the I,J,K,M keys to select the location you wish the HQ to move to and then type (RET). If this location is illegal (i.e. the computer can't get there), the cursor will return to the <MOVE> line. If the HQ has no movement points a message 'No Movement' will

appear in the bottom left of the screen and the error beep will sound. Otherwise, you will be returned to Menu 10 and the word <moving> will appear next to the supply rating. HQs cannot be ordered to an enemy controlled hex and are not allowed to move through enemy controlled hexes.

In subsequent movement phases, the HQ will move as best it can toward its objective. Once it reaches its destination, it will move no further until given a fresh order.

In any subsequent turn, a new objective can be assigned to a senior HQ. The old objective is voided and the HQ will try to move to the new destination.

A senior HQ has an important role in the game. It is the source of supply for its junior HQs, the administrative centre determining how efficiently supplies and replacements are delivered and a major factor in the ease of troop movement.

These are the only units in the game over which the player has direct control; i.e. which can be directed to a specific hex. When deciding where to place a senior HQ, keep the following points in mind.

Units given reserve orders (either junior HQs or assets) will head for their senior HQ and deploy once they get within three hexes of it. Junior HQs must trace a line of supply (LOS) to their senior HQ each turn to receive supplies and/or replacements. We recommend you keep your senior HQs about 6-10 hexes away from enemy units and directly to the rear of friendly units. Once you've had a bit of experience with their placement, you can try something more adventurous.

A senior HQ functions more efficiently if it is not moved. As far as possible, endeavour to keep to a minimum the number of times you must move it. Don't forget your senior HQs! They never move of their own volition unless they are on the edge of the map or within two hexes of an enemy unit. You must place them where you want them. It is easy to overlook them in the heat of battle. There is nothing worse than finding your senior HQ in the front line and realizing too late that all those troops you thought were refitting in the rear have been caught with their proverbial pants down.

It is especially important to keep an eye on your senior HQs when you are expecting them as reinforcements. No matter what mode they arrive in they should be put somewhere safe and useful immediately. If your junior HQs have no LOS you should check the location of the senior HQ. IBM users should note that senior HQs in dangerous situations may shatter. This means the HQ will rout back to the nearest friendly objective.

Menu 11 (Assign Assets)

This is an action menu. Use the arrow keys to locate a particular asset. If the asset is currently attached to a junior HQ, all units in that junior HQ will be highlighted with their specific unit icon.

In the lower centre of the screen, the identity and current attachment of each asset is displayed.

In the lower left of the screen, the current state of the asset unit is displayed. You are told the unit I.D., unit type (INFantry, ARMour or ARTillery), equipment used (e.g. 50mm AT), fatigue condition (exh'd, tired, fit, fresh), experience (green, trained, veteran, elite), and percentage casualties to date. IBM users are told the current order of the junior HQ (if any) to which the asset is attached.

Once you have located the chosen asset, type (RET) to select it. The unit may be either assigned to a junior HQ or placed into reserve. Use the arrow keys to select between <RESERVE> and <JNR HQ>. If you select <JNR HQ>, you are then asked which one. Use the

arrow keys and (RET) to make your decision. IBM users can select <RESERVE> or the particular junior HQ from the same menu.

Assets should be allocated to the junior HQs which need them the most. In general, this will be junior HQs with attack orders or those in tight situations. Each senior HQ can control up to four assets. Note that the assets of one senior HQ are not transferable to another senior HQ. The type of asset is important when deciding assignments. For example, assault guns, assault engineers and artillery are very useful in attack while anti-tank guns, tank destroyers and the ubiquitous artillery will be of use in defense.

Keep a careful eye on the condition of your assets. Place them into reserve when they become ineffective; i.e. their losses exceed 50% and/or they are exhausted. Assets assume the supply state of whichever junior HQ they are attached to.

Assets placed in reserve will head for their senior HQ and deploy once they are within three hexes of it. The assignment of assets does not become irreversible until <RUN 5> is selected. Until that point, you may return to this menu and reassign any or all of the assets.

Menu 12 (Allocate Support)

This is an action menu. The information to the left of the screen tells you the current air power situation (i.e. which player controls the air and to what degree), the number of off-board support points (OBS) which may be allocated and the number still to be allocated this turn. IBM users cannot access this menu unless they begin the turn with at least 1 support point available.

Use the arrow keys to locate a particular junior HQ and then enter the number of support points you wish to allocate to that formation. You can cancel an entry by hitting the space bar or by going back to the junior HQ and re-entering a new number. You will not be allowed to allocate more support points than you have available nor will you be able to access junior HQs not yet active.

In general, junior HQs with attack orders (especially assault) should get the most support. Junior HQs in tough/desperate defensive situations also need all the help they can get. However, support points are most effective when assaulting or exploiting, and less effective in all other situations.

Correctly proportioning support to your junior HQs will have a major effect on the outcome of most battles. Be careful not to forget that you have up to three senior HQs; don't allocate all your support points to just one of them without good reason.

As with all the menus in this game, the decisions made here do not become final until you go back to Menu H and select <RUN 5>. Up until that point, you can come back to this menu (or any other for that matter) and re-allocate the support points as many times as you wish.

Menu 13 (Junior HQ Select)

This is a branch menu. Use the arrow keys to locate a particular junior HQ and then type (RET) to select it. Junior HQs not in play (either not present or future reinforcements) will be overprinted with a solid bar and not accessible by the arrow keys.

Each junior HQ's I.D. and current order appear in the lower centre of the screen on the line corresponding to their position in the menu. If all the units in a particular junior HQ have 0 MPs, then IBM users are told that the formation is static.

Menu 14 (Junior HQ Action)

This is a branch menu. The information displayed to the left of the menu tells you the senior and junior HQ I.D., the type of junior HQ, junior HQ leadership, administration and supply

state (poor, fair, good, excel't), percentage losses to date, the number of units in the junior HQ and the brittleness level if one has been set.

The junior HQ is attached to a single unit from the formation, usually the one farthest from enemy units. Throughout the game, the location of the junior HQ will shift from unit to unit in response to the ebb and flow of battle. There is nothing the player can do to affect the location of the junior HQ. They cannot be destroyed until the last unit from the formation is destroyed. Note that the junior HQ can be located with an asset assigned to the formation.

At every stage of the game, an active junior HQ (i.e. one with at least one unit on the map) will be in one of three states. These are <READY>, <CONTACT> and <ENGAGED>. The computer determines which state the junior HQ is currently in. The current state of a junior HQ determines which actions it may perform.

A junior HQ in an <ENGAGED> state is more or less toe to toe with the enemy. As a useful rule of thumb, a junior HQ will count as engaged whenever two or more of its units are within two hexes of the same enemy unit.

A junior HQ in a <CONTACT> state is in proximity to enemy units. At least one unit is within two hexes of an enemy unit.

The enemy unit responsible for triggering an <ENGAGED> or <CONTACT> state is identified by the target icon.

An asset cannot trigger the <ENGAGED> or <CONTACT> state unless there are no surviving, non-artillery units organic to the junior HQ.

In other circumstances, a junior HQ is in a <READY> state.

Thus, only one of the three junior HQ actions is available to the player. The other two are overprinted with a solid bar and are not accessible to the arrow keys.

A junior HQ will keep the same action from turn to turn unless you step in and issue new orders or circumstances change. If the combat state does change (e.g. from <READY> to <CONTACT>), then the default actions for each of the three states are <READY> (deploy), <CONTACT> (defend) and <ENGAGED> (defend). In this circumstance, the computer will select the default action for you if you don't issue an order yourself.

The <UNITS> line is always available. It is used to get a detailed breakdown of the condition of each unit in the junior HQ, including assigned assets.

Use the arrow keys to locate the available junior HQ action line or the <UNITS> line and type (RET) to select it.

IBM users can access the <MAP WALK> routines as described earlier.

Menu 15 (Detailed OB)

This is an information menu. Use the arrow keys to cycle through each unit. All of the units in the junior HQ are identified by their specific unit icons. Assets attached to the junior HQ from the senior HQ reserve are also included.

The information presented here is identical to that obtained for friendly units under the map walk routines. For each unit you are told the I.D., the unit type (INF, ARM or ART), its equipment, its fatigue (exh'd, tired, fit or fresh) and experience (green, trained, veteran or elite), its percentage loss to date and its movement class (mech, non-mech or static).

It is a good idea to have a careful look through your OBs on the first turn and at regular intervals throughout the game. Once a junior HQ's average casualties start to mount, you must plan to have it relieved before a real disaster can occur. Never forget that the worst casualty rates occur when your men are worn out, hungry and have already sustained substantial losses.

Menu 16 (Ready Action)

This is an action menu. Use the arrow keys to locate the action of your choice and then type (RET). There are four actions which may be made by a junior HQ in the <READY> state. Note that the information to the left of the menu will depend upon which action is selected.

(a). Reserve. A junior HQ given reserve orders will attempt to move its units behind its senior HQ and deploy them there. A unit with a deploy instruction will seek out the best defensive terrain in the immediate vicinity.

A junior HQ in reserve is more likely to recover fatigue, receive replacements, be resupplied and to re-establish its administrative routine than a junior HQ in any other state. This refitting procedure will be much enhanced when the component units of the junior HQ are more than two hexes from enemy units.

The reserve state is an inefficient formation for fighting so you have to be careful when issuing this order. It is always a bit tricky to rescue a junior HQ from a tight combat situation. Please see the notes on the <RESERVE> action under Menus 17 (Contact Action) and 18 (Engaged Action).

Selecting a <RESERVE> state under the <READY> menu is usually pretty safe. Just make sure your senior HQ is out of harm's way and 6-10 hexes clear of enemy units.

(b). Obj'tive. Use the arrow keys to locate the friendly objective of your choice and then type (RET) to select it. As each objective is located, information describing it appears to the left of the menu. IBM users will see the name of any senior HQ assigned to that objective. Please see the notes under Menu 6 (Examine Objectives) for full details.

Once an objective is chosen, the component units of the junior HQ (including any assets) will move towards it, generally selecting the quickest route. This action is the principal means of manoeuvre for uncommitted junior HQs. Use it to get your men into position to engage the enemy.

(c). Enemy. Use the arrow keys to locate the enemy unit of your choice and then type (RET) to select it. As each enemy unit is located, information describing it appears to the left of the menu. Please see the notes under Menu 7 (Examine Map/Units) for full details. Only those enemy units within 8 hexes of the friendly unit to which the junior HQ is currently attached can be selected by this action.

Once an enemy unit is chosen, the component units of the junior HQ (including any assets) will move towards it, following the most direct route. You use this action to send your units into battle!

(d). Deploy. This action is chosen in those circumstances where there are no enemy units nearby but nevertheless you wish the junior HQ to remain in place, presumably to counter a future threat. Individual units will seek out the best defensive locations in the immediate vicinity within supporting distance of each other and await your further instructions.

Remember that <DEPLOY> is the default action for the <READY> state. This means that a junior HQ given a <RESERVE> order while in the <CONTACT> state will revert to a <DEPLOY> order if its state changes to <READY>. You should check on the state of junior HQs given <RESERVE> orders if you wish them to remain in reserve. See Menu 14 (Junior HQ Action) for full details.

Menu 17 (Contact Action)

This is an action menu. Use the arrow keys to locate the action of your choice and then type (RET). There are four actions which may be made by a junior HQ in the <CONTACT> state.

(a). **Reserve.** This action has the same effect as it does in the preceding menu (and the following one for that matter). You just have to be more careful when using it as enemy units will be much closer to you.

If at all possible, commit a fresh junior HQ to the front before withdrawing a worn out one. Sometimes this is not possible and you'll just have to hope that your men can outrun their pursuers. Remember the enemy will be operating in hostile territory while you will (hopefully) be in friendly territory.

(b). **Defend.** This action is basically self-explanatory. Units within two hexes of enemy units dig in *in situ* while others in the junior HQ deploy to the best defensive terrain in their immediate vicinity. It is the safest formation and when in danger (or in doubt), select it. Remember that <DEFEND> is the default action for the <CONTACT> state. See Menu 15 (Junior HQ Action) for full details.

(c). **Support.** This action is a more vigorous type of defense. Units within two hexes of enemy units will dig in as they do with the <DEFEND> action; however, all other units from the junior HQ (including assets) will move up to support the contacted unit/s. This action is chosen either to stiffen the defense of a particular sector or to assemble the junior HQ's components in preparation for a planned future offensive. Don't select it when you're heavily outnumbered and short of reinforcements/reserves. If you don't want anybody to move, use <DEFEND>.

(d). **Probe.** This is the most aggressive response you can make while in the <CONTACT> state. Rather than dig in, those units within two hexes of enemy units immediately launch a limited attack while the other units from the junior HQ move up into supporting positions in the expectation of contributing to the battle in the next turn.

This action should not be taken unless you have considerable superiority and a pressing need for some decisive achievement or for concentration of your own men.

Menu 18 (Engaged Action)

This is an action menu. Use the arrow keys to locate the action of your choice and then type (RET). There are four actions which may be made by a junior HQ in the <ENGAGED> state.

(a) **Reserve.** Please refer to the notes in the two previous menus.

(b). **Defend.** Please refer to the notes in the previous menu.

Remember that <DEFEND> is the default action for the <ENGAGED> state. See Menu 15 (Junior HQ Action) for full details.

(c). **Delay.** If the junior HQ is subjected to a major attack, it will withdraw in the direction of its senior HQ. This action will minimize losses from full scale assaults at the price of conceding ground. Uncontacted units from that junior HQ will move up to support the engaged unit/s.

(d). **Attack.** This action is not an operative command in itself. It directs you to a subsidiary menu wherein you choose the type of attack you wish to launch. When it comes time to get the job done, you'll have to hit this key!

Menu 19 (Attack Action)

This is the ultimate action menu. The decisions you make here will be vital in determining the outcome of the battle. The type of attack you should choose will depend on the current circumstances. The single most important thing to remember is that the <ASSAULT> action is not automatically the most effective way of destroying your opponent!

Use the arrow keys to locate the action of your choice and then type (RET). There are four actions which may be made by a junior HQ in the <ATTACK> state.

(a). **Probe.** This is a conservative and exploratory type of attack. It reduces your losses to the minimum while giving you a good idea of your opponent's strength. You won't do much damage to the enemy. Should you experience a simultaneous attack from your opponent, you will be in the best condition (given that you are attacking) to receive it. It has the same effect as a <PROBE> under Menu 17.

(b). **Prepare.** To all intents and purposes, this appears to be another <PROBE> attack. However, it is simply a diversion while the junior HQ prepares to launch a full scale assault. You will inflict the same level of damage on the enemy as you would with a <PROBE> attack but you are much more vulnerable to a counter-attack. Junior HQs attacked while executing a <PREPARE> order can get quite badly chewed up.

The value of this order is that it makes a subsequent assault very much more effective. You really must use prepared assaults against tough enemy opposition.

A <PREPARE> done on the pm turn may be effective (i.e. assist an <ASSAULT>) on the following am turn, but this is not certain. A <PREPARE> has no bonus for an <EXPLOIT>.

(c). **Assault.** These are full scale attacks using every component of the junior HQ which is in a condition to participate. They can result in horrendous losses for both sides. Make sure you allocate as much off-board support and as many assets as you can spare. Every little bit helps!

(d). **Exploit.** This type of attack should be launched against a weak enemy position. It gives the attacker the greatest opportunity to advance after the fighting. It will only be truly effective if your opponent is KIA'd or routed. Do not use it against a tough enemy position; your losses could well reach unacceptable levels.

5. THE COMBAT ROUTINES

(a). **Major Combat.** There are two types of combat. For convenience, they are referred to as major combat and minor combat.

The effective combat radius of all units is 2 hexes, regardless of type. Certain ranged units can be effective up to 15 hexes from their target. It is quite important to remember that the exact positions of the opposing units matter only insofar as units must be within 2 hexes or within range of an enemy unit to fight. We consider this type of arrangement to be preferable to the difficulty of showing units stacked up on a two-dimensional display.

A unit under attack can receive support from friendly units within 2 hexes (or range) of itself. Units with the same junior HQ I.D. are much more likely to provide support. Try to keep your formations as concentrated as possible.

As a result of major combat, units will lose strength points and become fatigued. They may even rout if the battle goes too badly against them. Rout is a general term used here to cover a number of different states. Essentially it means units unable to undertake organized activities within the normal military framework. For any given combat state, the higher the experience of a unit the less likely it is to rout, and the quicker it is to recover. Elite troops are very hard to shift and reorganize very quickly. Routing units are readily identified on the screen by their distinctive icons. The supply, and to a lesser extent, the admin values of the junior HQ are reduced in proportion to the intensity of the battle.

In addition, each side may have a *brittleness* level set when the scenario was created. If a formation has been flagged as brittle and its losses are greater than or equal to the brittleness

level then its supply and admin values will be zeroed and the units themselves will suffer attrition. This is to simulate the total loss of higher organization, even though the men may still be in the field. Naturally units in this condition are more likely to rout.

Even if a brittleness level is set, not every formation need be brittle. A brittle formation will have the brittleness level indicated to the right of the leadership factor in Menu 14. If the casualty level below it equals or exceeds the brittleness factor you are in trouble. A brittle senior HQ affects senior HQ supply, admin and assets. A brittle junior HQ affects junior HQ supply, admin and all component units.

Whenever a junior HQ executes an attack order you will receive a report providing you with the details. Losses will be specified as Light, Medium or Heavy. This represents the strength point loss as a proportion of current strength and is thus a relative measurement. Attackers losses are calculated on the total strength of all attackers.

The combat report also shows the orders for attacker and defender and if OBS is allocated it is described as Light, Medium or Heavy (LT, MED, HVY). Fatigue losses are not shown in the combat report but you should check on them through the various status reports. You must hit the space bar to proceed.

IBM users should note the following changes. The combat display has been extensively revised. Icons show the nationality of the combatants and the levels of off-board support added. Casualties are shown by icons with a triple 'death's head' icon informing you that the luckless unit in question has been KIA'd.

The following features are available with our IBM "full-map" graphics. The defending unit is identified by the target icon while all attacking units are shown, even those not able to contribute to the fight. Units highlighted with black/red marching ants are taking part in the battle. Units highlighted with black/purple *marking ants* are too far away to take part in the battle. Units highlighted with black/bluish *marking ants* are too exhausted and/or feeble to take part in the battle.

(b). Minor Combat. In addition to the battles displayed in the combat reports referred to above, all other opposing units adjacent to each other are subject to the minor combat routine. The results of this routine are not displayed on the screen. Units may suffer fatigue and/or strength point losses as a result of minor combat. Minor combat ignores the presence of OBS points.

For IBM users, all units suffering at least 1 SP loss from minor combat/attrition are sequentially identified.

The higher the experience level of a unit, the more damage it can cause and the less it takes from minor combat. Adverse factors for minor combat are lack of supply, high fatigue and high numbers of adjacent enemy units.

Minor combat does not occur at night, unless a side been flagged as *night capable*. Night capable units meeting the normal minor combat conditions will conduct minor combat at night. This simulates aggressive night patrolling and combat. In all other respects they are identical to normal units.

Night capability is indicated under the reports menu.

(c). Mines and Forts. Mines and forts affect both movement and combat. A unit moving onto an enemy minefield or fort cannot move any further that turn. Minefields and forts are automatically cleared at the end of turn, unless the unit conducts or is the target of a major combat, in which case it has a 50% chance of clearing the minefield or fort. Even if a fort or minefield is cleared in one turn, the unit's movement allowance for the next turn is zeroed. A unit on an uncleared mine or fort hex blocks movement through that hex. An enemy fort

or minefield will not be removed unless it is cleared by a friendly unit. Until it is cleared, an enemy fort or minefield hex will remain enemy controlled.

Minefields (but not forts) cause losses in strength and fatigue, and will continue to cause these losses until cleared. In any turn, a unit on an enemy fort or minefield is also very vulnerable to minor combat, and incapable of inflicting minor combat losses on the enemy.

Friendly minefields have no effect. Friendly forts use the combat effects defined for them in the construction kit. In a major combat against a fort, any engineer units (only) treat the terrain as being combat effectiveness 7; i.e. the easiest terrain for combat.

Routed units cannot clear minefields nor do they suffer any extra penalties for being in a minefield. Any enemy minefield or fort hexes occupied but not cleared are automatically cleared at the end of the game. This means you will receive victory points for those hexes.

These routines mean undefended minefields or forts slow movement without doing much damage. Defended minefields, or worse still, minefields with defended forts behind them can cause a lot of grief.

(d). Special Units. These are units showing the the parachute, glider or landing craft icon. While showing this icon, parachute or glider units are especially vulnerable to minor combat. They only show the icon on the first turn that they land. Landing craft will suffer special attrition if there was space for them to land at the beginning of the turn and there was an enemy unit within two hexes. If there was no space they are deemed to be keeping a prudent distance off-shore until such a space arises.

6. THE MOVEMENT ROUTINES

Once the last combat report has been displayed, the movement routines are activated. The computer determines in which order the regiments will move. This is based on admin, experience, supply, leadership, current order and a small random component.

If necessary, the movement routine will be divided into a series of *pulses*. This is to ensure that no single unit moves more than 4 hexes (or 8 along a road) before every unit has had a chance to execute its order.

Objectives may have been allocated to a particular senior HQ during the creation process. A computer controlled force will attempt to take or re-take those objectives with the specified senior HQ. A human player can naturally issue any orders he wishes. However, if an enemy unit is KIA'd, your units will move after combat towards a senior HQ objective, if one exists. Therefore you should either co-operate with the computer or remove the senior HQ objective allocation from the data base by using *WarPlan*™. The current senior HQ objectives will be listed on the bottom left of the screen under the reports menu.

The menu window will display the word <running> throughout the duration of the movement routines. The screen will centre on each unit as it moves. Once all movement is complete, the turn is over and the next turn will begin.

7. WINNING THE GAME

The game will end with the completion of the movement routine on the last turn. It is always a pm turn.

The victory screen will appear and summarize the players' performance.

8. TACTICS

Some parts of the game are so vital to playing it properly that they need to be specified in one place rather than scattered throughout the menu explanations. They are combat **and** supply.

(a) Combat. There are many factors in the game that are considered in the resolution of combat. The most important of these are the fatigue state, casualty level, and supply state of the troops. Deficiencies in any one of these areas can make a serious difference to combat performance. These are variables that are immediately affected by your command decisions and deserve your closest attention.

Tired or exhausted men cannot fight effectively. A combat result can cause loss of strength, fatigue or both. Thus men can lose fatigue points in combat in both attack and defence. Each attack can cost fatigue points and repeated assaults without a break will cause extra fatigue and supply losses.

Fatigue is recovered best at night by sleeping, and attacking at night will certainly cause fatigue losses and should only be done where really necessary. There are, however, some good reasons for attacking at night. These would include having large amounts of off-board support, the fact that your opponents air power makes attacking during the day very difficult, or having so many men that you can afford to have some attack at night to keep up constant pressure on the enemy. The main point is that troops fighting both day and night will rapidly become exhausted.

Night capable troops will conduct minor combat at night without fatigue loss. Moreover, any OBS allocated to them for a major combat automatically arrives as it does during the day. Non-night capable units have only a 50% chance of receiving allocated OBS. Night capable units still receive normal fatigue penalties for major combat at night.

Junior HQs in reserve will recover fatigue much faster than those in any other state and tired units should be placed in reserve to allow more rapid recovery. Attacking with units that are tired or exhausted invites disaster.

Units lose effectiveness as their casualty level mounts, over and above the actual loss of strength points. Any unit with over 20% casualties is a definite candidate for reserve, and units with over 50%, even if they remain on the battlefield, are not very useful. If units are brittle you must try to keep casualties below the brittleness level; once they exceed it, they will never recover and eventually die of attrition.

Casualty levels are not the absolute totals of killed and wounded. Rather they reflect the steady lowering of the number of men willing and able to fight effectively against the enemy. Most of the casualties will not be hurt at all but are out of contact, cut off, confused or leaderless, pinned down or otherwise ineffective.

Putting such a formation in reserve will allow re-organization and replacement and will eventually restore it to a reasonable fighting condition. A unit committed to battle and taking too many casualties may break and rout. A routed unit is no longer effective as a fighting force and will usually retreat towards its senior HQ.

Routed units can be targeted for major combat if no other enemy units are in range and in any case will suffer extra losses if adjacent to enemy units at the end of a turn. Any unit suffering overwhelming casualties may cease to exist for game purposes. It is noted as KIA and disappears from the game.

(b). Supply. The toughest unit is helpless without bullets and useless without food. The junior HQ supply level is used for combat purposes. Its likelihood of replenishment is related

to its current order (reserve is best, assault is worst), the senior HQ supply value and both HQs' admin values.

The senior HQ supply and admin values do not change! If these are low you have to be extra careful in selecting an attack philosophy. Although a junior HQ may start with decent supplies, resupply will be a chancy procedure. Naturally, attacks use a lot of supply, so avoid unnecessary combat.

Even if senior HQ supply is good, each junior HQ must trace a line of friendly controlled hexes to the senior HQ to establish resupply. You will be told if the LOS is open or cut. If it is cut, you may have to move your junior HQ formation or your senior HQ or both. Placement of the senior HQ is critical.

As a special concession to amphibious operations, junior HQs can trace supply to senior HQs located off-shore; i.e. showing the special landing craft icon. Once the senior HQ has landed the normal rules apply. Terrain prohibited to mech units and the presence of enemy units may also block supply. If your LOS is blocked you cannot afford to wait too long before unblocking it.

(c). Management. There is no such thing as a lucky turn. A good technique can overcome most reverses. Bad play turns reverse into disaster. A few principles to help you avoid disaster are set out below.

Keep a reserve. Your senior HQ has to be about 6 hexes away from the enemy to make this possible. If you don't have that room, fight like crazy to create it. Don't commit your reserve until you have made provision for a replacement.

Use the right men for the job. Historically, the best formations got more than their share of tough jobs, for very good reasons. You will find those reasons equally compelling.

Give the right job to the men. Even inferior troops who are strategically on the defensive can and should attack, at least occasionally. Judicious use of probes will cause extra fatigue and supply losses to the attackers. They will probably win anyway but be in worse shape after the victory than if a purely passive defense had been maintained. If your probe catches an attacker during a prepare he will certainly suffer.

Manage your assets. In one sense all your troops are assets and your job is to use them correctly. The senior HQ assets provide a useful illustration of this. They should be checked every turn to ensure that they are being used in the most efficient manner possible. The techniques for managing them successfully apply to the rest of your troops. Apply those consistently and you'll be hard to beat.



PART TWO

WARPLAN™

1. INTRODUCTION

The following notes are meant as a guide to *WarPlan*™. The information they contain will also provide some insights into how the game works, and should be read at some stage even if you never construct your own scenarios.

Varying an existing scenario is fairly straight-forward and the easiest way to get the most out of your game. All of the scenarios in the game come with suggested variations which can be easily implemented. However, designing a full scenario will require a reasonable degree of familiarity with the game itself.

All games in the *Battlefront Game System* use the same design routines. We publish complete scenarios for the *Battlefront Game System* in our magazine *Run 5*. These contain all the information required to create complete new games using the construction kit. For details on our *Run 5* magazine, please see the enclosed mailing card.

2. USING THE DESIGN MENUS

The data card contains a schematic display of the design menus. They operate in the same way as the Game Menus that you have already used.

There is no distinction for editing purposes between a scenario and a game in progress. A game can be saved to disk, edited as you see fit and then restarted. This is a feature to be used with restraint. While you can change sides with the computer, for instance, it will generally take until the end of the next game turn for the computer to readjust.

3. PREPARING A DISK

Whether making a variation to an historical scenario or creating an original scenario, the procedure for preparing a save game disk is essentially the same. Examine the Start and Design menus.

If you have not formatted a save game disk, prepare one using the procedure given in section 1 of Chapter 4 of the Game Routines.

When making a change to an historical scenario, select the <CREATE> line from Menu A and type (RET) to obtain Menu B.

If the template which is providing the source for the variation is on a scenario disk, select the <SCENARIO> line and type (RET). Select the chosen scenario from Menu C. The computer will automatically process you through to Menu J (Create Master).

If the template which is providing the source for the variation is on a save game disk, select the <DISK> line and type (RET). Load the chosen file from Menu D. The computer will automatically process you through to Menu J (Create Master).

Use *WarPlan*™ and *WarPaint*™ to make whatever changes you wish to the data and then come back to Menu J.

Select the <DISK> line to go to Menu D. Select the <SAVE> line. Locate the desired save location in the catalog with the arrow keys and then type (RET). You will be offered an opportunity to enter a comment. Use it if you wish, otherwise select the <SAVE GAME> line and type (RET).

IBM users can store scenario and save games in the same catalog. Therefore, there is no Menu D in the IBM routines.

When you wish to create your own scenario, repeat the above procedure but before entering data use the <CLEAR> line in Menu J to erase the data bases.

4. THE WARPLAN DESIGN MENUS

This section describes the various menus in *WarPlan*™ together with explanations of their functions. The order in which they are presented represents a convenient sequence for the creation of a new scenario.

4.1 MAP

4.11 Map Size/Data (Menu 8)

The map size is variable. Each map element is 13 hexes wide by 7 hexes deep. There may be up to three elements across and four down. Thus, the maximum size of a battlefield is 39 by 28 hexes. At a suggested ground scale of 1 kilometre per hex, this represents an area of a little over 1,000 square kilometres.

In creating a scenario, map size *must* be set before anything else. Select the smallest map size that can comfortably support the action you wish to represent. Apart from being less work, smaller maps will mean faster games.

IBM users can make several additional entries in this menu. The Axis and Allied forces can be identified with a 9 character name. This will replace the <AXIS>/<ALLIED> lines in the game menus. The colour of roads, rivers, the coast-line, the cursor and the map edge can be changed to any of the colours in the palette at the bottom of the screen. Only rivers and the map-edge need be edited when using IBM "full-map" graphics.

4.12 Define Terrain (Menu 7)

There are sixteen terrain shapes. The shapes are completely editable with *WarPaint*™. The names and the effects on both combat and movement for any terrain shape can be defined for each terrain type. It is possible to represent the ground conditions of any battlefield by judicious use of names and combat/movement effects. Use the (RET) key to advance the cursor through the screen.

Examine any (or all) of the game scenarios and the blank design form in Appendix A. For each terrain shape you wish to use, enter a 1-10 character name. IBM users can enter a 1-11 character name.

Every unit in the game is assigned a movement allowance in the Troop Creation routines. The movement section of this display is used to determine how many movement points each type of terrain will cost when that unit enters a hex of that type. Mechanized units are those primarily moved by tracked or wheeled vehicles. Non-mechanized units primarily move on

foot (or horse). Enter a number between 0 and 31. Note that 0 signifies the hex is impassable to that type of unit and will appear on the screen as a dotted line. The terrain symbol on the top of the screen corresponds to the line currently being edited by the cursor.

Terrain affects combat by reducing the effectiveness with which an enemy unit will attack a particular hex type. Since armoured, artillery and infantry units play a different role in combat, there is a separate effect for each type. Enter a value between 0 and 7. A value of 7 means that the terrain has no adverse effect on combat. A value of 0 means an incredibly tough position to assault.

4.13 Define Misc Factors (Menu 6)

There are 3 components to this screen. Examine any (or all) of the game scenarios and the blank design form in Appendix A.

1. Roads, Forts, Bridges, Rivers and Cities must have their movement and combat effects defined in the same way as terrain types. Note that forts and cities cannot affect movement and roads cannot affect combat. Mechanized units cannot cross rivers except at bridges. Notice how forts, as defined, can severely reduce the combat effectiveness of all three troop types.

2. Every hex on the map is controlled either by the Axis or Allied player. This is set when the scenario is created. Control then changes when a unit enters an enemy controlled hex. This change is automatic except for enemy forts and minefields. They take a variable amount of time to demolish/clear and until rendered ineffective they will function as normal for their original owners.

In essence, you do not really control a fort or minefield hex until you have cleared that hex. Hexes occupied but uncleared at the end of the game are automatically cleared and will earn victory points. Progress is always slower when moving in enemy territory. Just how much slower is determined by the values entered for adjacent enemy controlled hexes. The parameters from (1) to (6) are the number of surrounding hexes which are enemy controlled. The values underneath each parameter which may range from 0 to 15 specify the movement point penalty for entering a hex surrounded by any particular number of enemy hexes. Note that the penalty is specified for each side. Thus the <AXIS> line specifies the penalties for Axis units in Allied controlled hexes and vice versa.

3. The size of a unit is measured in strength points as described in the Troop Creation routines. Each player receives victory points for destroying enemy unit strength points. A value between 0 and 15 must be entered for both the mech and non-mech categories. The AXIS line reflects the number of VPs earned by the Allies for killing Axis strength points in each category.

4.14 Map Create Utility (Menu 9)

It's probably a good idea to make a draft version of your battlefield before completing the rest of the map data. However, we strongly advise you not to edit the map screen until all the information in Menus 6-8 has been compiled and entered into the program.

A 13 hex by 7 hex section of the map will appear with a flashing cursor. In the bottom left of the screen you will find the hex co-ordinate of the cursor's current location. The middle section contains the terrain name and the icons applicable to the current hex, as they appear in the map walk routines.

If the hex has been defined as an objective the name appears at the bottom of this section. There is a schematic display of the map in the lower right which indicates the map size and the current location of the cursor in relation to the full map.

There are 16 terrain types which can be entered. River and bridge hex-sides can be entered. Roads, cities, forts and minefields can be added to a hex in any combination. Every hex must be identified as Axis or Allied controlled.

The I,J,K,M and 1-6 keys will move the cursor around the chosen battlefield. 0 will centre the screen on the cursor. IBM users can use the f1-f10 keys to move from one 13 x 7 section of the map to another; f1 corresponds to the top left sector, f2 to the top centre sector, etc.

To create a terrain type in a hex, type (T)(n) where n = a number between 0 and 15. Please see the blank terrain effects chart in Appendix A. Note that the second terrain type requires you to type (T) (1) (RET). This is to distinguish it from terrain types T10-T15. IBM users must type T(n)(RET) for all terrain types. IBM users can use the + and - keys to change the terrain type to the next higher or lower type.

To add a road, city, fort or minefield to the hex, type (R), (C), (F) or (X) while the cursor is over the hex. Type the same letter to remove the feature. IBM users can type (E) or (H) to add ersatz (phony) or hidden roads to a hex. An ersatz road is not treated by the computer as a road for movement calculations. They should be used to stop the computer becoming confused by dead-ends. A hidden road will be masked from view by the terrain type in the hex. Use hidden roads where no real road exists but you wish to create a channel for troop movement. Another use is when the terrain type is particularly significant or unique and you wish it to be displayed. A unit traveling on an ersatz road will pay road movement costs. A unit traveling on a hidden road will pay normal terrain costs.

To create a river hex-side, Apple II/C64 users must type three keys. The first is (S). This identifies a hex-side. The second is a number between 1 and 3. This identifies north, north-eastern and south-eastern hex-sides respectively. Note that the south hex-side of one hex is the north hex-side of the hex directly below it. In this way, all 6 hex-sides can be edited. The third is a number between 1 and 2. (1) identifies a river. (2) identifies a bridge. Type (S0) to clear all hex-sides from a particular hex.

IBM users must follow a slightly different procedure. Type (S) (n) to signal you wish to edit a particular hex-side. If n = 0, all hex-sides will be cleared. If n = 1-3, you have chosen to edit the north, north-eastern and south-eastern hex-sides respectively. Note that the south hex-side of one hex is the north hex-side of the hex directly below it. In this way, all 6 hex-sides can be edited. Now type another number from 0-3. 0 = null hex-side. 1 = river hex-side. 2 = bridge hex-side. 3 = road suppression hex-side (this means that the two hexes separated by the hex-side will not display a road link).

To set control of a hex to Axis or Allied, Apple II/C64 users must type (RET) to bring up the map menu and select <SET SIDES>. Select <AXIS> or <ALLIED> as appropriate.

The map menu for IBM users allows you to select either <SET AXIS> or <SET ALLIES>.

All hexes, except T0s, will have their terrain icon replaced by the Axis or Allied control icon. As the cursor moves, it will leave a trail of the appropriate control icons behind it. To change control, type (RET) to bring up the map menu and select <RESET ALL>. You are back at square one and can repeat the procedure using the other control icon. When editing hex control from scratch, the default value is Axis.

For convenience, you can set the cursor to automatically produce a terrain shape. With the cursor flashing on the chosen terrain, type (RET). This brings up the map menu in the bottom right of the screen. Selecting <SET SHAPE> from this menu will lock the current terrain shape to the cursor. You may now move the cursor and the selected shape will be created wherever the cursor is moved. Type (RET) again to go back to the menu and select <RESET ALL> to turn off the shape.

We suggest you keep the map size as small as possible for your first original scenario.

All maps are compromises between the actuality of the terrain and its representation. Do not feel afraid to be creative with terrain to make the map work properly within the game system.

Important Note for IBM Users. If your IBM supports an EGA or VGA card and you have a colour monitor, you will be able to use our "full-map" graphics. There are a few changes you need to be aware of when you are building a new map. There are up to 250 full map icons which can be used to create the map. However, there are still only 15 different terrain types. In other words, the new graphics are purely an *overlay* covering the basic terrain shapes.

What you must do is first create a map using the basic graphics (i.e. go to DOS and re-enter the program, disabling the "full-map" graphics). Build up the map using the standard graphics and save as normal. Return to DOS and restart with the "full-map" graphics enabled. You can now go to the *WarPaint™* routines and prepare brilliant, 16 colour terrain shapes and unit icons. Our Run 5 magazine offers lots of helpful hints.

These icons are stored in a .lbm file and are DELUXE PAINT II™ (© Electronic Arts) compatible. Note that when you place these full-map hexes on the map, the original terrain type and name will remain in the lower right of the screen.

4.2 UNIT DATA

4.21 Troop Creation (Menu 14)

Examine the blank formation roster in Appendix A. One of these should be prepared for each senior HQ in the game. Do not attempt to edit the screen until these rosters have been completed.

Armed with your completed roster, you can create the units in the formation.

The following notes will explain the factors which must be valued or rated. A design perspective is attempted in the Design Overview at the end of this section.

(a). HQs

HQ I.D. Enter a 1-8 character name to identify the senior or junior HQ.

UNIT TYPE. Enter a 1-8 character name to describe the HQ type.

HQ ADMIN. Enter a value between 0 and 7. Admin affects the efficiency of every function the HQ carries out. The higher the value, the better. Senior HQ admin never varies in the course of a game. Junior HQ admin rises and falls in response to the current situation.

LEADERSHIP. Enter a value between 0 and 7. Leadership is always important in battle. The higher the value, the better. Neither senior HQ leadership nor junior HQ leadership will change in the course of a game. Both are important to the effectiveness of a formation.

HQ SUPPLY. Enter a value between 0 and 7. Senior HQ supply is fixed in each scenario and represents the overall supply status of the formation. Junior HQ supply usage is dependent upon combat while resupply is dependent upon the senior HQ supply value.

The more fighting, especially assaulting or exploiting, that a unit does the greater the supply consumption. An adequate junior HQ supply level is vital for effective combat. Values between 4 and 7 are satisfactory for all purposes, values of 2 or 3 will result in certain penalties in combat while values of 0 or 1 are disastrous. Thus a unit with very low senior HQ supply value will be severely restricted in the amount of effective combat it can undertake.

BRITTLE. Enter a value of 1 if the HQ is brittle. Brittleness is a factor for senior and/or junior HQs. A unit suffers the effects of brittleness only if its parent HQ is designated as brittle and

its casualty figure reaches the brittleness level set in the scenario briefing. Once this happens then the senior and/or junior HQ supply and admin values are set to zero and attached units suffer attrition each turn. For senior HQs, the affected units are the assets, while for junior HQs they are the regular units of that formation.

HQ MOVEMENT. Enter a value between 0 and 31. Regular HQs with the usual provision of wheeled or horse-drawn vehicles should be given a movement allowance at least equal to the mech. min. value, even if they are basically leg infantry formations. Only those formations such as airborne and marine which arrive by an air or amphibious route should have a movement allowance lower than the mech. min. Resupply by senior HQs with a movement allowance lower than the mech. min. will not be as good as their conventional brethren in most circumstances. Resupply across rivers (except at bridges) is less restricted for senior HQs with a movement allowance lower than the mech. min. If a unit was tied to a single supply source (such as Airborne formations and their drop zones), consideration should be given to using a zero movement point HQ to reflect this.

ARRIVAL (SENIOR HQ ONLY). Enter a number between 0 and 99. This is the turn that the senior HQ will arrive on the map. An arrival number of 0 means the HQ will begin the game deployed on the map. Units without a senior HQ will have no line of supply. Delaying the arrival of a HQ beyond that of its units is a very useful way of restricting the operations of units until an appropriate time.

LOCATION (SENIOR HQ ONLY). Enter the x,y map co-ordinates of the HQs start or arrival hex.

(b). Units

UNIT I.D. Enter a 1-3 character name to identify the unit.

LOCATION. Enter the x,y map co-ordinates of the unit's start or arrival hex. Note that amphibious reinforcements must be given an ocean hex adjacent to the intended beach-head. Do not place two units in the same hex unless they have different arrival turns. An exception to this is the placement of a string of reinforcements all arriving on the same map-edge hex on the same turn. The computer will handle this satisfactorily.

CLASS. Enter a number between 0 and 13. These 14 numbers correspond to the fourteen different types of units you may create. The types are; 0 = leg infantry, 1 = motorized infantry, 2 = mechanized infantry, 3 = paratroopers (airborne infantry), 4 = heavy weapons or mortars, 5 = cavalry, 6 = reconnaissance, 7 = engineer, 8 = anti-air, 9 = anti-tank, 10 = tank destroyer, 11 = armour, 12 = assault gun, 13 = artillery.

Numbers 0,1 and 3-9 are INFantry types, 2 and 10-12 are ARMour types and 13 is an ARTillery type. These are the three types of units defined by the combat routines.

MODE. Enter a number between 0 and 3. This number determines the mode of entry of a unit. 0 = normal; the unit begins on the board or arrives as a reinforcement in the normal fashion. 1 = airborne; the unit begins the game just landed by air drop or arrives as a reinforcement by air drop. 2 = air landing; the unit begins the game just landed by air transport or arrives as a reinforcement by air transport. 3 = amphibious; the unit begins the game at sea adjacent to a beach-head or arrives as a reinforcement in an ocean hex.

Units in normal mode will start or arrive on their designated entry hex. If it is blocked by another unit, they will not arrive until the hex is vacated. Units in parachute mode will arrive on any hex within 1 hex of their designated entry hex. If there is no vacant hex inside this radius, they are destroyed. Units in air landing mode will start or arrive on their designated entry hex. If it is blocked by another unit, they will not arrive until the hex is vacated. Units

in amphibious mode will arrive on any coastal hex within 2 hexes of their designated entry hex. If there is no vacant hex inside this radius, they will wait off-shore until there is one.

EQUIPMENT. In Menu 15 you are asked to describe, with a 1-8 character name, the types of equipment/troops used by your force. This facility makes the identification of friendly units much easier. The name itself is not used by the program; it is simply a mechanism to increase the recognition level of a unit. There is space to list 31 items of equipment and/or troop types. Number 0 is always blank. Enter the number corresponding to the appropriate equipment.

Once you've had some experience with these routines, we recommend you prepare Menu 15 before Menu 14.

MOVEMENT. Enter a number between 0 and 31. This is the number of movement points the unit will have available for each turn. Note that you must co-ordinate this number with the mechanized minimum value from Menu 19 (Scenario Details). All units with a movement allowance greater than or equal to the chosen mechanized minimum value will be treated as mechanized units; all others will be treated as non-mechanized.

ARRIVAL. Enter a number between 0 and 99. This is the turn that the unit will arrive on the map. An arrival number of 0 means the unit begins the game deployed on the map.

MAXIMUM STRENGTH. Enter a number between 1 and 15. This is the maximum strength of the unit. In a scenario with battalion-size units, a good approximation of strength can be found by assigning 3 strength points (SPs) for each full strength company, 2 SPs for a depleted company and 1 SP for remnants. For artillery battalions, 3 tubes is equal to 1 SP. If the unit scale is larger (i.e. regiment or division), a different rating system must be used. Look to the scenarios included with this game or to our *Run 5* magazine for detailed examples.

CURRENT STRENGTH. This must be less than or equal to the initial strength. For various reasons it is often desirable to start a unit understrength. This allows you to do just that. The normal game processes for replacements will tend to bring a unit's strength back to its maximum strength.

RATING. Enter a number between 0 and 15. This number is a subjective evaluation of the quality of the equipment and organization of the unit. For example, the rating of a tiger tank battalion would be 12-15 depending on the scenario while a Matilda tank would be lucky to rate 1 in any circumstances.

Infantry, armour and artillery type units should be rated on separate scales. The combat mechanics take care of the inter-relationships. If you don't like the ratings of your favourite hardware or unit, change them.

RANGE. All direct attack types of infantry units should have a range of 0. All supporting types of infantry units should have a range of 1. All armour type units (except mechanized infantry) should have a range of 1. All artillery type units should have a range equal to the effective distance at which they could engage the enemy. The maximum range is 15.

FATIGUE. Enter a number between 0 and 7. 0 = totally exhausted, 7 = bright-eyed and bushy-tailed.

EXPERIENCE. Enter a number between 0 and 7. 0 = green and pretty well useless, 7 = elite troops of the highest quality. The average regular unit should have an experience between 3 and 5.

ATTACHMENT (ASSETS ONLY). Enter a number between 0 and 4. This number will identify which junior HQ has currently been assigned the particular asset. A value of 0 indicates that the asset is in reserve.

Note that all assets which are intended as reinforcements should be assigned to a junior HQ when created and *not* placed in reserve. This will stop them from clogging up a reinforcement hex while they get their bearings.

4.22 Equipment Roster (Menu 15)

The use of this menu has already been explained in the previous section.

4.23 Axis/Allied Objectives (Menu 16)

Axis and Allied objectives are created in the same way. Examine the blank objective chart in Appendix A. Each side may have a maximum of 12 objectives. The <FORWARD> and <BACK> lines in the menu window are used to bring up the next objective. The <EDIT> line is used to enter the objective and set its parameters. The <MAP> line is an alternative method of positioning the objective on the map.

Each objective must be given a 1-11 character name and an x,y map location. Apple II/C64 users must make sure that there is a character in the first space of the objective name; otherwise the objective will not appear in the game. IBM users must assign at least 1 VP to the objective if they wish it to appear in the game.

An objective may have a senior HQ, numbered 1 to 3, assigned to it. If a side is computer controlled, the computer will attempt to take an objective with a junior HQ from the nominated senior HQ. This junior HQ will be assigned assets and will head for the objective at every opportunity. If a number of objectives are given to one senior HQ it will attempt the closest and work its way through the others as they arise. In this way a line of advance may be specified for a senior HQ.

This control is only valid for the turns that an objective is earning points. If an objective is in friendly territory, i.e. already controlled, then it is ignored and the senior HQ will seek enemy controlled objectives or follow the normal rules. However, if such an objective is taken by the enemy, then the computer will make a concerted effort to recapture it.

In addition, objectives which have a senior HQ assigned to them may be designated as defensive objectives. Only the specified senior HQ will be affected by this condition and it operates only while the objective is under friendly control. A junior HQ from the specified senior HQ will be despatched to the objective and will defend it as long as the time window applies.

The ability to control troops conferred by the use of objectives is very important. Scenario creators have a lot of power at their disposal.

Victory points can be awarded for the possession of an objective on a turn by turn basis throughout the game and/or at the end of the game. When awarding points throughout the game, you must select the turn that point scoring will begin and the turn on which it will end.

If you wish to create an objective simply as a signpost for the direction of your troops, assign just 1 VP for its occupation at the end of the game. The Objective or Enemy commands are the only way to move men freely around the map. If you want troops to be able to go somewhere, put in an objective.

4.3 BRIEFING

4.31 Scenario Details (Menu 18)

The blank briefing form in Appendix A illustrates this routine.

Enter a 1-16 character name for the scenario. There are up to three 26 character lines you can use for a sub-title to the scenario.

Enter the turn, day, month, year and century that the scenario begins.

Enter the number of days the scenario will last. The maximum is 25. Every game ends on a pm turn.

Enter the initial weather. 0 = precipitation (rain or snow as appropriate), 1 = heavy overcast, 2 = light overcast, 3 = clear. Note that this is atmospheric weather only. To reflect the effect of mud or snow on ground movement, you must make appropriate provision in the terrain effects routine.

Enter the current weather forecast. 0, 1 = stormy, 2, 3 = building, 4, 5 = stable, 6, 7 = clearing.

Enter the climate. This sets the basic parameters on which the weather forecast will operate to produce the weather. The default type 0 is European. The other climates are Arid, (suitable for desert battles), Monsoon, Tropical, Arctic (clear only 25% of the time, cloudy or precipitation the rest) and Temperate (perfect weather, just like Sydney).

Enter the Mech Min. All units with a movement allowance greater than or equal to this number pay mechanized terrain costs. All others use the non-mechanized values.

Enter the separate casualty levels at which HQs of each side become brittle (if so designated). These are percentage casualties in increments of 10%.

Enter for each side whether it is night capable. Night capable units conduct minor combat at night and always receive their allocated OBS points.

4.32 Force Details (Menu 19)

Examine the blank briefing form in Appendix A as well as any of the scenarios.

For each nationality you must enter a 1-16 character name for the Side, the Force and the Commander.

Support points are assigned in two categories; those available in daylight turns and those available at night. Each point of air support is equivalent to 1 SP of artillery. Reliability measures how likely the support points are to be available for use each turn. 0 = unlikely, 3 = almost certain. Rating is a measure of the effectiveness of the support. Sixteen inch naval shells deserve the highest rating, 25lb WWI surplus bombs the lowest.

Air superiority is measured on a scale of 0-7. 0 = strong Axis, 7 = strong Allied. Reliability measures how likely this air superiority is to remain throughout the scenario. A low reliability means the air superiority condition could fluctuate frequently throughout the scenario. A reliability of 7 means there is little chance of any change to the air superiority condition. IBM users should note that a reliability of 0 means there is no air-power effect in the game.

4.33 Minor Combat Effects (Menu 20) IBM Users Only

This menu allows you to increase or decrease the effectiveness of minor combat in various situations.

(a). **Fort Enhancement.** Troops defending a fortification can be made tougher or weaker by changing the minor combat value. Enter a value between 0 and 15. Increase the value to toughen the unit. Decrease the value to weaken the unit. The default value is 2.

(b). **City Enhancement.** Troops defending a city can be made tougher or weaker by changing the minor combat value. Enter a value between 0 and 15. Increase the value to toughen the unit. Decrease the value to weaken the unit. The default value is 0.

(c). **General Enhancement.** Troops defending in other terrain can be made tougher or weaker by changing the minor combat value. Enter a value between 0 and 15. Increase the value to toughen the unit. Decrease the value to weaken the unit. The default value is 5.

4.4 A DESIGN OVERVIEW

(a). **Units.** The process of creating a scenario should be regarded as an art rather than a science. While some armies came close to fighting with a homogeneous organization, a lot did not. The circumstances of war usually bear little relation to paper organizations. Do not be afraid to combine units and manipulate strengths and ratings to get the desired affect. A scenario is much more than the sum of its parts.

(b). **Scale.** The system works well with basic unit sizes ranging from battalion to division. The best results are obtained when all units in a scenario are approximately the same organizational size. Exceptions to this generalization are fairly common, as can be seen in the *Panzer Battles* game or many of the scenarios appearing in *Run 5*.

(c). **Combat.** The various unit types, as defined by the CLASS entry, have different effects in the combat routines. Choice of the CLASS for a unit should bear these in mind. The types are listed below.

0 = leg infantry, 1 = motorized infantry, 2 = mechanized infantry, 3 = paratroopers (airborne infantry), 4 = heavy weapons or mortars, 5 = cavalry, 6 = reconnaissance, 7 = engineer, 8 = anti-air, 9 = anti-tank, 10 = tank destroyer, 11 = armour, 12 = assault gun, 13 = artillery. Numbers 0, 1 and 3-9 are INFantry types, 2 and 10-12 are ARMour types and 13 is an ARTillery type.

Any combat having both the INF types 0-3, 5-7 and ARM types 11-12 gains a combined arms bonus. When defending, there is an additional bonus for the presence of an anti-tank type unit (8-10).

Any unit with a range greater than zero gains a bonus when used in conjunction with a 0 range unit. For example, a US infantry regiment usually mustered three infantry battalions and an artillery battalion. The heavy weapons and mortars were in separate companies organic to the infantry battalions. To represent the supporting fire of these companies, enter a range value of 1 for one of the infantry battalions. This will ensure that the combined arms bonus is realized. Note that the artillery bonus is in addition to the above.

The presence of ART or OBS also confers a bonus, irrespective of the actual effectiveness of those points. ART and OBS points work with full effectiveness only in <ASSAULT> or <EXPLOIT>. All other orders are only 50% effective.

Engineer units ignore terrain when they attack, and are hence extremely useful for attacking forts.

5. WARPAINT™

WarPaint™ is entirely new to wargame construction. Even we are amazed at just how useful it is. Every icon in the game can be edited, including all unit and terrain icons.

5.1 WARPAINT™ (Menu 21)

The <GRAPHICS> line gives access to the icon editor. The <STORE> and <RECALL> lines are used to install or extract a graphics set from any save game or scenario disk.

To transfer the graphics from one scenario to another, you would execute the following steps. Load the source scenario, and use the <STORE> line to load the graphics. Remove that disk and insert the destination disk. Load the destination scenario and use <RECALL>. The graphics that were in the source scenario are now in the destination scenario. Save the altered scenario and the change is permanent.

The <FULL MAP> line gives IBM users access to the "full-map" graphic routines.

5.2 DESIGN GRAPHICS (Menu 22)

The screen shows a large boxed section on the left. This shows a pixel by pixel representation of an icon. Below it the icon is shown in white and the allowable colours as it would look upon the screen. The icon number is shown above the menu box. The current selected colour is shown below the menu box. Selecting the <EDIT> line shows a flashing cursor in the top left of the icon box. The box is fourteen elements across by 16 elements down. The presence of a pixel is shown by a white square and its absence by a white dash.

The I, J, K, and M keys or the arrow keys are used to move the cursor around the icon box. At any location the (RET) key creates a pixel if none is present and removes it if one is. As you make changes in the large icon box these are reflected in the small icons at the bottom of the screen.

The rules for manipulating the screen icons are a trifle complicated and may vary from computer to computer. They are explained in detail below.

After using the edit function type (ESC) to leave. Apple II/C64 users will be asked to <SAVE> or <IGNORE> their changes and must make this choice before returning to Menu 21. Choosing <SAVE> incorporates any changes you have made while <IGNORE> returns the icon to its previous shape. IBM users have access to the <CLIP> function described below.

The <COLOR> option allows you to change the selected colour of the icon. The <STORE> and <RECALL> options allow you transfer an icon between different icon numbers, allowing easy variations. The <CLEAR> option blanks the screen, and for IBM users, at the same time transfers the previous image to the clip location. The <CLIP> option restores the screen with the image currently in the clip location.

5.3 "FULL-MAP" GRAPHICS (Menus 23-25)

Menu 23 directs IBM users with EGA/VGA cards to the main features of our "full-map" graphics.

<GOTO MAP> provides access to the game map in the same way as Menu 9. It reduces the workload in moving from menu to menu.

<MAKE MAP> provides access to the 250 terrain icons.

<MAKE UNIT> provides access to the 60-odd unit icons.

<INIT MAP> replaces the current terrain shape with the shape in the standard graphics.

<INIT UNIT> replaces the current unit shape with the shape in the standard graphics.

<COMPRESS> is a means of reducing the size of the terrain data base. It eliminates any shape not actually deployed on the map. Do *not* use it until you have finished making the map.

The cumbersome <SAVE> and <IGNORE> lines from the standard graphic routines have been replaced by a 'Clip' feature in Menu 24. Whenever you edit a shape, the original shape is transferred to the 'clip' window. To restore the original shape, select <CLIP> from the menu window.

The enhanced graphics routines have a number of additional features. Select <PAINT> to bring up the enhanced graphic menu.

<EDIT> will take you into the icon image. Use the arrow keys to locate the pixel you wish to edit. Use the Tab/Shift Tab keys to select a colour from the palette at the bottom of the screen. Type <d> to set the drag key. This will trail the chosen colour after the cursor. Type <d> again to turn off the drag feature.

<TRIAL MAP> will show you what your terrain shape will look like on a full screen.

<CHNGE CLR> allows you to change a particular colour to another. Select <CHNGE CLR> and then use the arrow keys to locate on the terrain shape the colour you wish to change. Now hit (ENTER) and use the arrow/tab keys to locate from the palette the colour you wish to substitute.

<SHIFT> shunts the terrain shape in the direction specified by the chosen arrow key. Use this feature to vary a particular terrain shape.

<FLIP HORZ> will flip the shape horizontally.

<FLIP VERT> will flip the shape vertically.

<MAKE HEX> will bring in the corresponding terrain shape from the standard graphic routines.

The f1-f8 and Alt f1-f8 keys will select a particular colour. The f9 key will select the colour under the cursor. Tab/Shift Tab and +/- will select the next colour in either direction.

A little familiarity with these routines will teach you all you need to know.

5.4 TECHNICAL NOTES

(a). **Apple II Users.** Welcome to the wonderful world of colour mixing. There are a number of restrictions in the Apple graphics as some random experimentation will make obvious. Vertical white lines must be at least two pixels wide, otherwise they turn out either orange or blue. Depending on which column they are in, vertical lines one pixel wide can appear in two colours and are invisible in the other two. Essentially, any shape that looks good in both white and a colour must be multiples of two pixels across, unless you like the weird colour mixing you get by defying this rule. Some icons are designed to be used only in white and so can ignore the weird colour effects.

Since the colour of a dot can change depending on exactly where on the screen it happens to be located, designing non white icons also demands care.

Continuing icons to the edges can cause colour mixing problems, especially at the corners.

(b). **C-64/128 Users.** The Commodore does not have the restrictions of the Apple with regard to pixel combinations. However, the Commodore does have some colour mixing problems of its own, especially at the top and bottom of hexes.

(c). **IBM Users.** IBM users have neither pixel nor colour-mixing problems! The CGA card has fewer colour choices than the EGA card. Note that Tandy CGA users have the same number of colour choices as an EGA user.

(d). **Icon Functions.** All icons have a particular function. In the case of the terrain icons (numbers 0 to 15), the functions and the name are defined in the terrain menu. All other icons serve a particular purpose which does not change. If you edit an infantry unit icon to look like a tank, the system still treats it as an infantry unit.



APPENDIX A

BRIEFING

AXIS SIDE [16] CORPS [16] COMMANDER [16]	ALLIED SIDE [16] CORPS [16] COMMANDER [16]	SCENARIO [16] BRIEFING [26] (0-3) START = ☐ (1-31) DATE = ☐ (1-12) MONTH = ☐ (0-99) YEAR = ☐ (0-20) CENTURY = ☐ (1-16) LENGTH = ☐ (0-3) WEATHER = ☐ (0-7) FORECAST = ☐ (0-7) CLIMATE = ☐ (0-31) MECH MIN = ☐ BRITTLINESS (0-9) AXIS = ☐ % (0-9) ALLIED = ☐ % NIGHT CAPABLE (0-1) AXIS = ☐ (0-1) ALLIED = ☐
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TERRAIN EFFECTS CHART

TERRAIN CODE (T0-T15)	TERRAIN NAME [10]	TERRAIN COSTS PER HEX		ATTACK EFFECTS		
		MECH (0-31)	NON-MECH (0-31)	ARM (0-7)	ART (0-7)	INF (0-7)
T0						
T1(RET)						
T2						
T3						
T4						
T5						
T6						
T7						
T8						
T9						
T10						
T11						
T12						
T13						
T14						
T15						
-	ROAD					
-	FORT					
-	CITY					
-	BRIDGE					
-	RIVER					

APPENDIX A

DIVISION ROSTER

SCENARIO	Nationality	1st Ind	II	II	3rd Ind
XX Division		2nd Ind	II	II	4th Ind
HQ					
III 1st Regt	III 2nd Regt	III 3rd Regt	III 4th Regt		
II 1st Bn	II 1st Bn	II 1st Bn	II 1st Bn		
II 2nd Bn	II 2nd Bn	II 2nd Bn	II 2nd Bn		
II 3rd Bn	II 3rd Bn	II 3rd Bn	II 3rd Bn		
II 4th Bn	II 4th Bn	II 4th Bn	II 4th Bn		

HEADQUARTERS DATA

FORMATION	XX HQ	1/RHQ	2/RHQ	3/RHQ	4/RHQ
HQ I.D.	[8]				
UNIT TYPE	[8]				
HQ ADMIN	0-7				
LEADERSHIP	0-7				
HQ SUPPLY	0-7				
BRITTLE	0-1				
MOVEMENT	0-31	N/A	N/A	N/A	N/A
ARRIVAL	0-99	N/A	N/A	N/A	N/A
LOCATION	(x,y)	N/A	N/A	N/A	N/A

BATTALION DATA

FORMATION	II/III	1/12/13/14/1	1/22/23/24/2	1/32/33/34/3	1/42/43/44/4	1/- 2/- 3/- 4/-
UNIT I.D.	[3]					
LOCATION	(x,y)					
CLASS	0-13					
MODE	0-3					
EQUIPM'T	0-31					
MOVEMENT	0-31					
ARRIVAL	0-99					
MAX STREN.	0-15					
INIT. STREN.	0-15					
RATING	0-15					
RANGE	0-15					
FATIGUE	0-7					
EXPERIENCE	0-7					
ATTACHMT	0-4	N/A N/A N/A N/A	N/A N/A N/A N/A	N/A N/A N/A N/A	N/A N/A N/A N/A	

APPENDIX A

OBJECTIVES AND MISC. FACTORS

I.D.	Name [11]	Map Loc [x,y]	Div. (0-3)	Start (1-99)	End (1-99)	Pts/Turn (0-30)	Pts/End (0-255)
1(AX)							
2(AX)							
3(AX)							
4(AX)							
5(AX)							
6(AX)							
7(AX)							
8(AX)							
9(AX)							
10(AX)							
11(AX)							
12(AX)							
1(AL)							
2(AL)							
3(AL)							
4(AL)							
5(AL)							
6(AL)							
7(AL)							
8(AL)							
9(AL)							
10(AL)							
11(AL)							
12(AL)							

ADJACENT ENEMY HEX PENALTY (AXIS/ALLIED) (0-15)

1st Hex = 4th Hex =
 2nd Hex = 5th Hex =
 3rd Hex = 6th Hex =

VICTORY POINTS PER STRENGTH POINT ELIM. (0-15)

	MECH	NON MECH
AXIS		
ALLIED		

MAP SIZE

ACROSS (0-2)
 DOWN (0-3)